



2016 Major Automated Information System Annual Report



Common Aviation Command and Control System Increment 1 (CAC2S Inc 1)

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Common Acronyms and Abbreviations for MAIS Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ADM - Acquisition Decision Memorandum
AoA - Analysis of Alternatives
ATO - Authority To Operate
APB - Acquisition Program Baseline
BY - Base Year
CAE - Component Acquisition Executive
CDD - Capability Development Document
CPD - Capability Production Document
DAE - Defense Acquisition Executive
DoD - Department of Defense
DoDAF - DoD Architecture Framework
FD - Full Deployment
FDD - Full Deployment Decision
FY - Fiscal Year
IA - Information Assurance
IATO - Interim Authority to Operate
ICD - Initial Capability Document
IEA - Information Enterprise Architecture
IOC - Initial Operational Capability
IP - Internet Protocol
IT - Information Technology
KPP - Key Performance Parameter
\$M - Millions of Dollars
MAIS - Major Automated Information System
MAIS OE - MAIS Original Estimate
MAR – MAIS Annual Report
MDA - Milestone Decision Authority
MDD - Materiel Development Decision
MILCON - Military Construction
MS - Milestone
N/A - Not Applicable
O&S - Operating and Support
OSD - Office of the Secretary of Defense
PB - President's Budget
RDT&E - Research, Development, Test, and Evaluation
SAE - Service Acquisition Executive
TBD - To Be Determined
TY - Then Year
U.S.C- United States Code
USD(AT&L) - Under Secretary of Defense for Acquisition, Technology, & Logistics

Program Information

Program Name

Common Aviation Command and Control System Increment 1 (CAC2S Inc 1)

DoD Component

Navy

United States Marine Corps

Responsible Office

Program Manager

Col Rey Masinsin
Program Executive Officer Land Systems (PEO LS)
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Date Assigned: August 9, 2012

References

MAIS Original Estimate

January 29, 2016

Approved APB

Navy Acquisition Executive (NAE) Approved Acquisition Program Baseline (APB) dated June 6, 2015

Program Description

The Common Aviation Command and Control System (CAC2S) provides an integrated and coordinated modernization effort for the equipment of the Marine Air Command and Control System and provides enhanced Air Command and Control (AC2) capability for the Tactical Air Command Center, Tactical Air Operations Center, and Direct Air Support Center to support aviation employment in Joint, combined, and coalition operations. CAC2S provides the tactical situational display, information management, sensor and data link interface, and operational facilities for planning and execution of Marine Aviation missions within the Marine Air Ground Task Force (MAGTF). CAC2S Increment I will eliminate the current stove-piped, dissimilar AC2 systems and will add capability for aviation combat direction and air defense functions by providing a single networked system. CAC2S will be the primary C2 system that integrates MAGTF aviation operations with Joint, combined, and coalition aviation C2 agencies.

Business Case

Business Case Analysis, including the Analysis of Alternatives: Key functional requirements for this program were approved in the CAC2S CPD dated September 10, 2007 (with the Capability Production Letter of Clarification dated September 15, 2008). CAC2S will enable the consolidation of the existing functionality of the MACCS into a single system. It will provide common hardware, software, equipment, and facilities; hardware components will be modular and scalable. CAC2S will be interoperable with MACCS organic sensors and weapons systems, support the tenets of Expeditionary Maneuver Warfare, and foster joint interoperability. The program was being restructured in September 2008. Guidance for investigating reasonable restructured alternative systems or capabilities and associated costs was issued September 26, 2008, in a memorandum from Assistant Secretary of the Navy (ASN) (Research, Development, and Acquisition (RDA)) to Program Executive Officer Land Systems. A plan for the analysis was included in the Critical Change Report dated April 24, 2009. The ensuing Analysis of Alternatives considered four existing systems, eight individual components, and two emerging, future DoD initiatives as alternatives. The analysis resulted in the CAC2S alternative being approved by ASN (RDA), the MDA, in a Program Decision Memorandum (PDM), "CAC2S Increment I," May 05, 2009. As the result of the PDM, the independent component cost estimate, which is the Service Cost Position (SCP), was developed and approved by the Deputy Assistant Secretary of the Navy (Cost & Economics) on July 13, 2010 and a revised APB was approved by ASN (RDA) on November 12, 2010. The CAC2S Phase 1 MS C was approved on November 30, 2010. The program's Acquisition Strategy and SCP were updated and approved in January and February 2015, respectively for the Phase 2 MS C event. The CAC2S Phase 2 MS C was approved on March 31, 2015 and the updated APB was approved on June 6, 2015.

Firm, Fixed-Price Feasibility: The determination of the development/integration contract type was based on cost and technical risk associated with satisfying the requirement.

Since the cost and technical risk of satisfying the requirements is sufficiently well understood, the MDA has selected several fixed-price contracts to execute the program's current Phase 1 and Phase 2. In Phase 1, the Government field activity is conducting the program's Phase 1 integration/assembly efforts as well as a firm fixed-price (FFP) contract for software licenses to be hosted and integrated with the PDS. Phase 1 also includes one cost-type contract which is for the voice communication network software improvements. Phase 2 consists of four FFP contracts demonstrating PDS/SDS prototype Technology Readiness Level 8 components as well as a transportability analysis and a single Fixed Price Incentive contract to design, engineer, develop, integrate, fabricate, test and deliver Engineering Development Models, Limited Deployment Units, Initial Spares and Software Maintenance support. A full and open competition FFP contract will be awarded for full rate production to complete the CAC2S acquisition objective.

Independent Cost Estimate: The USD(AT&L) is not the MDA, and an independent cost estimate is not required by 10 U.S.C. 2334(a)(6) in response to the Critical Change experienced. However, an independent component cost estimate, SCP, was completed on July 13, 2010 by the Naval Center for Cost Analysis and submitted to the ASN (RDA), the MDA, to establish the CAC2S Increment I APB. The CAC2S SCP was updated and approved on February 26, 2015 for the Phase 2 MS C and the APB was updated accordingly and approved on June 6, 2015.

Certification of Business Case Alignment; Explanation: I certify that all technical and business requirements have been reviewed and validated to ensure alignment with the business case. This certification is based on my review of the above mentioned SCP, APB and CAC2S Phase 2 MS C.

Business Case Certification:

Name: Mr. ALEJANDRO GIERBER

Organization: Marine Corps/PEO Land Systems for CAC2S Inc 1

CAC Subject: CN=GIERBER.ALEJANDRO.1159089548, OU=USMC, OU=PKI, OU=DoD, O=U.S. Government, C=US

Date: 2/2/2016 01:14 PM

Program Status

Annual Report: The program is substantially on track to remain within the schedule, cost and performance thresholds identified in the Original Estimate; there have been no Significant or Critical Changes (as defined by 10 U.S.C. Chapter 144A) reported since the previous MAIS Annual Report to Congress.

Schedule

| Schedule Events | | |
|--------------------------------------|-----------------------------|------------------------------|
| Events | Original Estimate Objective | Current Estimate (Or Actual) |
| Milestone 0 | Jul 1997 | Jul 1997 |
| Milestone 1 (Milestone A equivalent) | Aug 2000 | Oct 2000 |
| Milestone B | Oct 2002 | Oct 2002 |
| Milestone C - Phase 1 ¹ | Nov 2010 | Nov 2010 |
| Full Deployment Decision - Phase 1 | Sep 2011 | Oct 2011 |
| Milestone C - Phase 2 | Sep 2014 | Mar 2015 |
| Full Deployment | Sep 2021 | Mar 2022 |

Memo

1/ The program's original Milestone C was completed on December 17, 2007 but was rescinded by ASN (RDA) on December 7, 2009 as a result of a Critical Change (Report delivered on April 24, 2009) and subsequent program restructuring. The program completed a successful Milestone C - Phase 1 review on November 17, 2010; the resulting CAC2S Milestone C - Phase 1 ADM was issued by ASN (RDA) on November 30, 2010.

Acronyms and Abbreviations

ASN(RDA) - Assistant Secretary of the Navy (ASN) (Research, Development and Acquisition)

Performance

| Performance Characteristics | | |
|---|---|---------------------------------------|
| Original Estimate Objective/Threshold | | Current Estimate (Or Actual) |
| Net-Ready | | |
| The system must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include: 1) Department of DISR-mandated GIG IT standards and profiles identified in the TV-1; 2) DISR mandated GIG KIPs identified in the KIP declaration table; 3) NCOW RM Enterprise Services; 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and nonrepudiation, and issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views. | The system must fully support execution of joint critical operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for transition to Net-Centric military operations to include: 1) DISR mandated GIG IT standards and profiles identified in the TV-1; 2) DISR mandated GIG KIPs identified in the KIP declaration table; 3) NCOW RM Enterprise Services; 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and nonrepudiation, and issuance of an IATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views. | Will meet threshold |
| Mission Performance - Data Fusion | | |
| The system shall fuse real-time, near real-time, and non-real-time data for display on any workstation in order to produce a COP and a SIAP. | The system shall fuse real-time, near real-time, and non-real-time data for display on any workstation in order to produce a CTP and Air Operations data in tabular form. | Will meet threshold |

Acronyms and Abbreviations

ATO - Approval to Operate
 CAC2S - Common Aviation Command and Control System
 COP - Common Operational Picture
 CTP - Common Tactical Picture
 DAA - Designated Approval Authority
 DISR - Department of Defense Information Technology Standards and Profile Registry
 GIG - Global Information Grid
 KIP - Key Interface Profile
 NCOW - Net-Centric Operations Warfare
 RM - Reference Model
 SIAP - Single Integrated Air Picture
 TV - Technical View

Cost

| CAC2S Inc 1 | | | | |
|--|-------------------|-------------------------------|-------------------|-------------------------------|
| Appropriation Category | BY 2009 \$M | | TY \$M | |
| | Original Estimate | Current Estimate Or Actual | Original Estimate | Current Estimate Or Actual |
| Acquisition Cost | | | | |
| RDT&E | 646.9 | 562.5 | 647.0 | 559.3 |
| Procurement | 281.4 | 283.7 | 308.8 | 322.8 |
| MILCON | 0.0 | 0.0 | 0.0 | 0.0 |
| Acq O&M | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Acquisition Cost | 928.3 | 846.2 | 955.8 | 882.1 |
| Operating and Support (O&S) Cost | | | | |
| Total Operating and Support (O&S) Cost | 1036.0 | 765.7 | 1507.0 | 1090.6 |
| Total Life-Cycle Cost | | | | |
| Total Life-Cycle Cost | 1964.3 | 1611.9 | 2462.8 | 1972.7 |

Cost Notes

1. This report and the Budget Year IT-1 Exhibit cover different time periods thus the costs will not match.
2. Then Year dollars are included for information purposes only; cost variances will be reported against Base Year dollars.
3. The O&S costs reflect all work performed during that phase, regardless of the type or source of funding.
4. CAC2S Life-Cycle Cost Estimate extends to FY 2042.